What is claimed is

1. A content editing apparatus that edits digital
broadcast content that is composed of a plurality of data
carousels for realizing pseudo-interaction, the content
editing apparatus comprising:

reception means for receiving, from an operator,
transmission start times and transmission end times of modules
forming each data carousel; and

data carousel definition means for

(a) sorting the received transmission start times and
the transmission end times into a time order,

(b) defining a carousel time period of each of the
plurality of data carousels separated by the sorted
transmission start times and the transmission end times, and

(c) selecting modules to be transmitted during the
carousel time period.

2. The content editing apparatus of Claim 1,

wherein the reception means includes:

a time axis display unit for displaying a time axis with
time divisions;

a module specification unit for specifying a module,
using identification information that is composed of a module
ID and a version; and

8   a transmission time specification unit for receiving,

9   from the operator, specification of locations on a display

10   displayed by the time axis display unit, so as to specify

11   a transmission start time and a transmission end time of the

12   specified module, the locations each corresponding to a time

13   division on the time axis.

1   3. The content editing apparatus of Claim 2,

2   wherein the reception means further includes a bar graph

3   display unit for displaying a bar graph that is parallel to

4   the time axis, and

5   the transmission time specification unit receives an

6   operation of the operator to specify the transmission start

7   time and the transmission end time, the operation being (a)

8   drag-and-drop of a start of the bar graph to the location

9   corresponding to the transmission start time and (b) drag-and

10   drop of an end of the bar graph to the location corresponding

11   to the transmission end time, the start of the bar graph and

12   the end of the bar graph at an initial state respectively

13   corresponding to a broadcast start time and a broadcast end

14   time of the digital broadcast content.

1   4. The content editing apparatus of Claim 1, further

2   comprising

3   module information storage means for storing a list of

4   the transmission start times and the transmission end times

5   of the modules received by the reception means,

6   wherein the data carousel definition means includes:

7   a time sort unit for sorting the transmission start times

8   and the transmission end times into the time order;

9   a carousel definition unit for defining the carousel

10 time period of each of the plurality of data carousel separated

11 by the sorted transmission start times and the transmission

12 end times;

13   a module selection unit for selecting modules to be

14 transmitted during the carousel time period; and

15   a carousel transmission information storage unit for

16 storing identification information of each module to be

17 transmitted during the carousel time period.

1   5. The content editing apparatus of Claim 4,

2   wherein the data carousel definition means further

3   includes

4   a carousel time period display unit for displaying each

5   carousel time period stored by the carousel transmission

6   information storage unit, so as to be in correspondence with

7   the time divisions on the time axis displayed by the time

8   axis display unit.

1   6. The content editing apparatus of Claim 4, further

2 comprising:

3   module storage means for storing modules,

4 identification information for identifying each module, and

5 items of each module, and

6   content structure display control means for displaying

7 a structure of the digital broadcast content in a form that

8 can be viewed by the operator, the structure being a hierarchy

9 including a broadcast content, data carousels, identification

10 information for modules forming each data carousel,

11 identification information for items of each module, in a

12 stated order.

1   7. The content editing apparatus of Claim 1, further

2 comprising:

3   transmission bit rate reception means for receiving

4 specification of a transmission bit rate for each data carousel

5 from the operator;

6   module storage means for storing a size of each module;

7 and

8   standard response time calculation means for summing

9 up sizes of the modules selected by the data carousel definition

10 means to be transmitted during the carousel time period, and

11 dividing a resulting value by the transmission bit rate for

12 the data carousel, to obtain a standard response time for

13 the data carousel, the standard response time being a

14 transmission time period of one cycle of the data carousel

15 when each module included therein is transmitted at once

16 sequentially.

1   8. The content editing apparatus of Claim 7, further

2 comprising

3   standard response time display means for displaying the

4 standard response time for each data carousel calculated by

5 the standard response time calculation means.

1   9. The content editing apparatus of Claim 8, further

2 comprising:

3   transmission bit rate change means for receiving, from

4 the operator, specification of a transmission bit rate for

5 a data carousel, when the standard response time of the data

6 carousel displayed by the response time display means needs

7 to be changed;

8   standard response time re-calculation means for

9 re-calculating the standard response time of the data

10 carousel; and

11   standard response time change display means for

12 displaying the standard response time re-calculated by the

13 standard response time re-calculation means instead of the

14 standard response time previously displayed.

1   10. The content editing apparatus of Claim 8, further

2 comprising:

3   standard response time change operation means for

4 receiving, from the operator, input of a standard response

5 time of the data carousel, when the standard response time

6 of the data carousel displayed by the response time display

7 means needs to be changed;

8   data transmission bit rate calculation means for

9 dividing a total size of the data carousel by the input standard

10 response time to obtain the transmission bit rate; and

11   data transmission bit rate display means for displaying

12 the calculated transmission bit rate.

1   11. A content editing method for editing digital

2 broadcast content that is composed of a plurality of data

3 carousels for realizing pseudo-interaction, the content

4 editing method comprising:

5   a reception step for receiving, from an operator,

6 transmission start times and transmission end times of modules

7 forming each data carousel; and

8   a data carousel definition step for

9   (a) sorting the received transmission start times and

10 the transmission end times into a time order,

11   (b) defining a carousel time period of each of the

12 plurality of data carousels separated by the sorted

13   transmission start times and the transmission end times, and

14   (c) selecting modules to be transmitted during the

15   carousel time period.

1   12. A program for making a computer execute a content

2   editing method for editing digital broadcast content that

3   is composed of a plurality of data carousels for realizing

4   pseudo-interaction, the content editing method comprising:

5   a reception step for receiving, from an operator,

6   transmission start times and transmission end times of modules

7   forming each data carousel; and

8   a data carousel definition step for

9   (a) sorting the received transmission start times and

10   the transmission end times into a time order,

11   (b) defining a carousel time period of each of the

12   plurality of data carousels separated by the sorted

13   transmission start times and the transmission end times, and

14   (c) selecting modules to be transmitted during the

15   carousel time period.

1   13. A computer-readable storage medium that can be

2   applied to a content editing apparatus that edits digital

3   broadcast content that is made up of a plurality of data

4   carousels   for   realizing   pseudo-interaction,   the

5   computer-readable   storage   medium   storing   a   program

6   comprising:

7   a reception step for receiving, from an operator,

8   transmission start times and transmission end times of modules

9   forming each data carousel; and

10   a data carousel definition step for

11   (a) sorting the received transmission start times and

12   the transmission end times into a time order,

13   (b) defining a carousel time period of each of the

14   plurality of data carousels separated by the sorted

15   transmission start times and the transmission end times, and

16   (c) selecting modules to be transmitted during the

17   carousel time period.

1   14. A content editing apparatus that edits content stored

2   at a site on a network in a state of being available for a

3   validity period, comprising:

4   reception means for receiving, from an operator,

5   transmission start times and transmission end times of modules

6   forming content; and

7   module definition means for

8   (a) sorting the transmission start times and the

9   transmission end times of the modules into a time order,

10   (b) defining validity periods separated by the sorted

11   transmission start times and the transmission end times, and

12   (c) selecting modules to be made available for each

13   defined validity period.